

CLAIMS

1. A computer network system, comprising:
a circuit board forming a backplane;
5 a field replaceable unit (FRU) slot located on said backplane;
a bus;
a central resource coupled with said FRU slot via said bus; and
a non-volatile memory coupled to said central resource;
wherein said central resource generates a power mask for said FRU slot;
10 wherein said power mask is stored in said non-volatile memory; and
wherein said power mask includes a power state of said FRU slot.

2. The computer network system of Claim 1, wherein said FRU slot
comprises a Compact Peripheral Component Interconnect (CPCI) slot.

3. The computer network system of Claim 1, wherein said power mask is
available after a power cycle and can be subsequently accessed from said non-volatile
by said central resource via said bus.

4. The computer network system of Claim 3, wherein said central resource
accesses said power mask for information regarding said power state on said power
mask using an Intelligent Platform Management Interface (IPMI) protocol.

5. The computer network system of Claim 1, wherein said central resource
25 accesses said power mask from said non-volatile memory to determine a power status
and history of said slot.

6. The computer network system of Claim 1, wherein said central resource
accesses said power mask from said non-volatile memory to determine a power
30 requirement of an FRU held by said FRU slot.

7. The computer network system of Claim 1, wherein said power mask comprises a power status of said FRU slot and a functional status of an FRU held by said FRU slot.

5 8. The computer network system of Claim 1, wherein said central resource accesses said power mask from said non-volatile memory to update said power state.

9. The computer network system of Claim 8, wherein said updated power state depends on a condition of an FRU held by said FRU slot.

10 10. The computer network system of Claim 1, wherein said central resource accesses said power mask from said non-volatile memory to determine whether an FRU held by said FRU slot is faulty.

15 11. The computer network system of Claim 1, wherein said central resource accesses said power mask from said non-volatile memory to determine whether an FRU held by said FRU slot requires too much power.

20 12. The computer network system of Claim 1, wherein said central resource generates said power mask based on whether an FRU held by said FRU slot is faulty.

25 13. The computer network system of Claim 1, wherein said central resource generates said power mask based on whether an FRU held by said FRU slot requires too much power.

30 14. The computer network system of Claim 1, wherein said central resource accesses said power mask from said non-volatile memory to keep an FRU held by said FRU slot in a powered off state.

15. The computer network system of Claim 1, further comprising a hotswap controller running on said central resource and wherein said hotswap controller makes a determination as to whether to power on an FRU held by said FRU slot.

5 16. The computer network system of Claim 15, wherein said hotswap controller persistently powers down said FRU when said FRU requires an excess amount of power.

10 17. The computer network system of Claim 15, wherein said hotswap controller persistently powers down said FRU when a hardware signal from said FRU indicates said FRU as being faulty.

15 18. The computer network system of Claim 1, further comprising a second FRU slot located on said backplane and wherein said central resource generates a second power mask for said second FRU slot.

20 19. The computer network system of Claim 18, wherein said power mask is uniquely generated by said central resource for said FRU slot and said second power mask is uniquely generated by said central resource for said second FRU slot and wherein both said power mask and said second power mask are persistently stored in said non-volatile memory.

20. A method for generating and utilizing a persistent power mask to determine a power state of a computer network device, comprising:

determining by a central resource whether a field replaceable unit (FRU) coupled to a computer network system should be powered off during a first power cycle of said computer network system;

generating a power mask by said central resource for said FRU to reflect a power state determined by said central resource for said FRU;

storing said power mask in a non-volatile memory;

accessing said power mask by said central resource from said non-volatile memory during a second power cycle of said computer network system; and

utilizing said power mask by said central resource to determine whether said FRU should be persistently powered off during said second power cycle.

21. The method of Claim 20, wherein said determining by said central resource as to whether said FRU should be powered off comprises:

determining by said central resource whether said FRU requires more power than said computer network system can provide.

22. The method of Claim 21, wherein said determining by said central resource as to whether said FRU requires more power than said computer network system can provide comprises:

comparing a power requirement of said FRU with a power capacity of said computer network system, wherein said power requirement of said FRU is stored in a second non-volatile memory located within said FRU and wherein said second non-volatile memory is powered on by a standby power source of said computer network system.

23. The method of Claim 20, wherein said determining by said central resource as to whether said FRU should be powered off comprises:

determining by said central resource whether said FRU is faulty.

24. The method of Claim 23, wherein said FRU is determined by said central resource to be faulty based on a hardware signal from said FRU.

25. The method of Claim 20, further comprising:

5 determining by said central resource whether said FRU coupled to said computer network system should be powered on during said second power cycle of said computer network system; and

 updating said power mask by said central resource for said FRU to reflect an updated power status determined by said central resource for said FRU during said
10 second power cycle.